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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/869,331	07/26/2001	Nobuhiro Yabunouchi	209357US0XPC	5713
22850	7590	10/07/2003	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			BROWN, JENNINE M	
			ART UNIT	PAPER NUMBER
			1755	

DATE MAILED: 10/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/869,331

Applicant(s)

YABUNOUCHI ET AL.

Examiner

Jennine M. Brown

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) 4 and 13-40 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4, 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Election/Restrictions***

Based upon Applicants reply regarding the previous restriction, Examiner re-presents the restriction under PCT rules for clarity of record.

Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions, which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claims 1-3 and 5-12, drawn to A Non Ionic Oxygen Containing Complex Catalyst for the polymerization of Olefins having  $((R'')_3-C-Y)_n-Z-(R^2)_{m-n}$ , classified in class 502, subclass 103.

Group II, claims 4 and 25-32, drawn to A Non Ionic Oxygen Containing Complex Catalyst for the Polymerization of Olefins having  $(R')_3-C-OR^3$ , classified in class 502, 103.

Group III, claims 13-15 and 17-24, drawn to An Ionic Catalyst for the Polymerization of Olefins having  $((R''')_3-X-Y)_n-Z-(R^2)_{m-n}$ , classified in class 502, subclass 103.

Group IV, claims 16 and 33-40, drawn to An Ionic Complex Catalyst for the Polymerization of Olefins having  $R_3-C-OR$ , classified in class 502, subclass 103.

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The inventions listed as Groups I, II, III and IV do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

The special technical feature of Group I is the compound  $((R'')_3-C-Y)_n-Z-(R^2)_{m-n}$  of claim 1. Groups II through IV lack this special technical feature of Group I.

This application contains claims directed to more than one species of the generic invention. These species are deemed to lack unity of invention because they are not so linked as to form a single general inventive concept under PCT Rule 13.1.

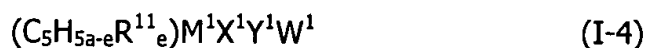
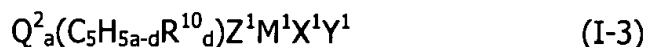
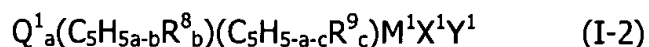
The species are as follows:

Claims 1 and 4 have species I-2 through I-6.

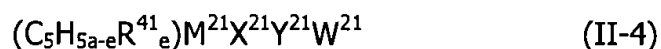
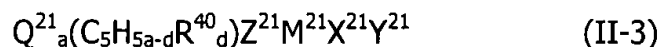
Claims 13 and 16 have species II-2 through II-6.

Applicant, in reply to the previous action, elected Group I and species I-2. Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

The claims are deemed to correspond to the species listed above in the following manner:



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The following claim(s) are generic: none.

The species listed above do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, the species lack the same or corresponding special technical features for the following reasons: Each of the compounds in I-2 through I-6 and II-2 through II-6 are different compounds with different definitions in the art.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Applicant's election with traverse of claims 1-3 and 5-12, species I-2 in Paper No. 10 is acknowledged. The traversal is on the grounds that the rejection was improper because US restriction practice was used and the application is a 371. This argument is not found persuasive because each of the Groups listed previously do not share the same special technical feature.

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The requirement is still deemed proper and is therefore made FINAL.

Claims 4 and 13-40 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to nonelected Groups, there being no allowable generic or linking claim. Applicant timely traversed the lack of unity (restriction) requirement in Paper No. 11.

### ***Information Disclosure Statement***

The information disclosure statement filed 05/13/2003 fails to comply with 37 CFR 1.98(a)(1), which requires a list of all patents, publications, or other information submitted for consideration by the Office. Form 1449 was missing from the IDS, therefore it has been placed in the application file, but the information referred to therein has not been considered.

### ***Specification***

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-3 and 5-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, the compound I-1 does not list the definition for "C" in the formula of compound (C), therefore Examiner assumes that "C" represents the element carbon and is unrelated to the designation for compound (C), because it is otherwise undefined in the claim. R<sup>2</sup> is undefined regarding the number of carbon atoms in the hydrocarbon group, and dependent claims only limit to greater than 2 carbon atoms, therefore Examiner assumes any number of hydrocarbons will meet this limitation. The alkylating agent is considered optional therefore Examiner assumes the alkylating agent is not present in the catalyst.

Furthermore, compound (B) is undefined in the claim and can be represented by any number of organic or inorganic complexes and is undefined in dependent claims or in the specification in such a way as to impart meaning into the structure of the compound.

***Claim Rejections - 35 USC § 102***

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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Claims 1-3 and 5-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Tomotsu, et al. (US 5430001).

Tomotsu, et al. teach a catalyst comprising 3 components (A), (B) and (C) (col. 2, l. 20-22). Compound (A) is a transition metal complex having Group 3 to 6 transition metals, most preferably titanium (col. 2, l. 22 - col. 3, l. 17). Compound (B) is an oxygen containing compound when the alkoxy compound is part of the metal group in complex II or III (col. 3, l. 18 – col. 4, l. 26). Compound (C) is represented by  $((R'')_3-C-Y)_n-Z-(R^2)^{m-n}$  which can be magnesium or aluminum (col. 4, l. 27 – col. 5, l. 8).

Claims 1-3 and 5-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Takeuchi, et al. (US 5747614).

Takeuchi, et al. teach a catalyst comprising 3 components (A), (B) and (C) (col. 4, l. 48-54). Compound (A) is a transition metal complex having Group 3 to 6 transition metals, most preferably titanium (col. 2, l. 27 - col. 4, l. 40). Compound (B) is an oxygen containing compound when the alkoxy compound is part of the metal group in complex II or III (col. 5, l. 16 – col. 6, l. 15) or an aluminoxane complex (col. 4, l. 55 – col. 5, l. 15). Compound (C) is represented by  $((R'')_3-C-Y)_n-Z-(R^2)^{m-n}$  which can be magnesium or aluminum defined herein as Lewis acid (col. 6, l. 16 – col. 7, l. 10).



Claims 1-3 and 5-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Aoyama, et al. (US 5807940).

Aoyama, et al. teach a catalyst comprising 3 components (A), (B) and (C) (abstract). Compound (A) is a transition metal complex having Group 3 to 6 transition metals, most preferably titanium (col. 2, l. 58 - col. 4, l. 6). Compound (B) is an oxygen containing compound (col. 4, l. 6-7; col. 5, l. 59 - col. 7, l. 18). Compound (C) is represented by  $((R'')_3-C-Y)_n-Z-(R^2)^{m-n}$  which can be magnesium or aluminum alkyl defined herein as Lewis acid (col. 7, l. 21-67).

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3 and 5-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Yabunouchi, et al. (US 5854165)

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Yabunouchi, et al. teach a catalyst comprising 3 components (A), (B) and (C) (col. 21, l. 32-54). Compound (A) is a transition metal complex having Group 3 to 10

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transition metals, most preferably titanium (col. 6, l. 46-52; col. 6, l. 65 – col. 13, l. 52).

Compound (B) is an oxygen containing compound (col. 18, l. 43 – col. 19, l. 18).

Compound (C) is represented by  $((R'')_3-C-Y)_n-Z-(R^2)_{m-n}$  which can be magnesium or aluminum alkyl defined herein as Lewis acid (col. 20, l. 9–39).

Claims 1-3 and 5-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Yabunouchi, et al. (US 6171994 B1)

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Yabunouchi, et al. teach a catalyst comprising 3 components (A), (B) and (C) (col. 6, l. 57-63). Compound (A) is a transition metal complex having Group 3 to 10 transition metals, most preferably titanium (col. 7, l. 10 - col. 13, l. 26). Compound (B) is an oxygen containing compound (col. 19, l. 9–55). Compound (C) is represented by  $((R'')_3-C-Y)_n-Z-(R^2)_{m-n}$  which can be magnesium or aluminum alkyl defined herein as Lewis acid (col. 19, l. 56 – col. 20, l. 19).

Claims 1-3 and 5-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Kashiwamura, et al. (US 6339135 B1).

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The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Kashiwamura, et al. teach a catalyst comprising 3 components (A), (B) and (C) (col. 4, l. 29-36). Compound (A) is a transition metal complex having Group 3 to 10 transition metals, most preferably titanium (col. 5, l. 56 - col. 13, l. 54). Compound (B) is an oxygen containing compound (col. 17, l. 18-63). Compound (C) is represented by  $((R'')_3-C-Y)_n-Z-(R^2)_{m-n}$  which can be magnesium or aluminum alkyl defined herein as Lewis acid (col. 18, l. 56 - col. 20, l. 7).

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

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Claims 1-3 and 5-12 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 9-11 of US 6255244 B1. Although the conflicting claims are not identical, they are not patentably distinct from each other because both are catalysts for the polymerization of olefins having a transition metal compound that comes into contact with an oxygen containing compound, and an alkylating agent. The present application does not require the use of an adsorption agent but it would have been obvious to one of ordinary skill in the art to modify the present catalyst composition to use an adsorbent and a Lewis acid so that catalyst performance would be enhanced by using a heterogeneous rather than homogeneous system because the catalyst can be recycled.

Claims 1-3 and 5-12 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-9 and 17-18 of US 6562918 B1. Although the conflicting claims are not identical, they are not patentably distinct from each other because both are catalysts for the polymerization of olefins having a transition metal compound that comes into contact with an oxygen containing compound and Lewis acid. It would have been obvious to one of ordinary skill to use the oxygen containing compound as a carrier for the catalyst system so that it is more effective as a heterogeneous rather than homogeneous system because the catalyst can be recycled.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennine M. Brown whose telephone number is (703)


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305-0435. The examiner can normally be reached on M-F 8:00 AM - 6:00 PM; first Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Bell can be reached on (703) 308-3823. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

jmb



Mark L. Bell  
Supervisory Patent Examiner  
Technology Center 1700